UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,874	12/29/2003	Steven Craig Greer	863.0006.U1(US)	1399

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HARRINGTON & SMITH, PC
4 RESEARCH DRIVE
SHELTON, CT 06484-6212

EXAMINER
DUONG, FRANK

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _07 August 2006_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-36_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,2,14-18,28-31,35 and 36_ is/are rejected.

7)☒ Claim(s) _3-13,19-27 and 32-34_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _09 August 2004_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail. Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is a response to communications dated 08/07/06 and 12/29/03.

Claims 1-36 are pending in the application.

Information Disclosure Statement

2. The information disclosure statements filed 12/29/03 and 08/07/06 comply with the

provisions of 37 CFR 1.97, 1.98 and MPEP § 609. They have been considered

placed in the application file.

Claim Objections

3. Claims 29 and 36 are objected to because of the following informalities:

As per claim 29, the language should be changed to --The transmitter of claim

17, wherein the transmitter is within a mobile station--.

As per claim 36, the language should be changed to --The receiver of claim 30,

wherein the receiver is disposed within a mobile station--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 14-18, 28-31 and 35-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen (USP 5,615,298).

Regarding **claim 1**, in accordance with Chen reference entirety, Chen discloses a method of providing in-band data within a digital speech channel (*Fig. 1 and the accompanied description begins at col. 3, line 61 and thereinafter*), comprising:

storing in a computer readable medium a codebook comprising N codewords, each uniquely identifiable by a codeword index defining L bits (Fig. 1 depicts codebook 29);

using a designated codeword of the codebook in a first frame to identify a stream of in-band data ("*let N be a multiple of 4*") comprising at least one designated frame apart from the first frame in which in-band data ("synchronization or signaling bit") is carried ("*rob one bit out of every N-th transmitted codebook index*"); and in the at least one designated frame, using a first portion D ("*rob bit*") of the L bits ("transmitted codebook index") of a codeword index to carry in-band data; wherein N and L are integers greater than one, and D is an integer at least equal to one (*Note: This limitation is corresponded to the description of in-band signaling bits inserted once every N speech vectors described at col. 23, line 65 to col. 24, line 30 and thereinafter*).

Regarding **claim 2**, in addition to features recited in base claim 1 (see rationales discussed above), Chen also discloses wherein in the at least one designated frame, a mutually exclusive second portion L-D of the L bits of the index are available to search the codebook (*the remaining "6-bit shape codebook index" use for search a codebook at the decoder end is discussed at col. 24, lines 11-13 and thereinafter*).

Regarding **claim 14**, in addition to features recited in base claim 1 (see

rationales discussed above), Chen also discloses wherein the designated codeword

identifies a stream of in-band data comprising a plurality of designated frames (*col. 24,*

lines 15-30 and thereinafter).

Regarding **claim 15**, in addition to features recited in base claim 14 (see

rationales discussed above), Chen also discloses wherein each of the plurality of

designated frames are dispersed among K non-designated frames that do not carry in-

band data, K being an integer greater than one (*col. 24, lines 15-30 and thereinafter*).

Regarding **claim 16**, in addition to features recited in base claim 14 (see

rationales discussed above), Chen also discloses wherein the plurality of designated

frames is a fixed number of frames, said fixed number one of a predetermined number

that is constant for all designated codewords that identify a start of a stream of in-band

data, and a number that varies among at least two designated codewords that identify a

start of a stream of in-band data (*col. 24, lines 15-30 and thereinafter*).

Regarding **claim 17**, in accordance with Chen reference entirety, Chen shows in

a transmitter (Fig. 12) comprising a codebook of 2^L codewords (Fig. 1; element 29),

each codeword uniquely identifiable over other codewords in the codebook by a

codeword index defining L bits (*col. 4, lines 1-6 and thereinafter*), and an encoder for

encoding speech into frames using the codebook (Fig. 1), the improvement comprising:

the encoder (Fig. 12; element 610 or Fig. 1) using a designated codeword in a

first frame to identify a stream of in-band data defined by at least one designated frame

in which speech and data are carried, wherein, in the designated frame, the encoder

encodes data using a first portion D of the L bits of a codeword index, wherein L is an

integer greater than one and D is an integer at least equal to one (*Note: This limitation*

is corresponded to the description of in-band signaling bits inserted once every N

speech vectors described at col. 23, line 65 to col. 24, line 30 and thereinafter).

Regarding **claim 18**, in addition to features recited in base claim 17 (see

rationales discussed above), Chen also discloses wherein, in the at least one

designated frame, a mutually exclusive second portion L-D of the L bits of the index are

available to search the codebook (*the remaining "6-bit shape codebook index" use for*

search a codebook at the decoder end is discussed at col. 24, lines 11-13 and

thereinafter).

Regarding **claim 28**, in addition to features recited in base claim 17 (see

rationales discussed above), Chen also discloses wherein the stream of in-band data is

defined by a plurality of designated frames that are each dispersed among K

non-designated frames that do not carry in-band data, K being an integer

greater than one (*col. 24, lines 15-30 and thereinafter*).

Regarding **claim 29**, in addition to features recited in base claim 17 (see

rationales discussed above), Chen also discloses wherein the transmitter is within a

mobile station (*see col. 1, line 7 and thereinafter*).

Regarding **claim 30**, in accordance with Chen reference entirety, Chen shows in

a receiver (Fig. 13) comprising a codebook of 2^L codewords, each codeword

uniquely identifiable over other codewords in the codebook by a codeword index

defining L bits, and a decoder for using the codebook to decode speech, the

improvement comprising: the decoder (740) decoding a designated codeword in a first frame that identifies an in-band stream of data defined by at least one designated frame in which speech and data are carried, wherein, in the designated frame, the decoder decodes data using a first portion D of the L bits of a codeword index, wherein L is an integer greater than one and D is an integer at least equal to one (*Note: This limitation is corresponded to the description of in-band signaling bits inserted once every N speech vectors described at col. 23, line 65 to col. 24, line 30 and thereinafter and col. 11, lines 9-13 discloses the speech decoder 740 in accordance with the present invention*).

Regarding **claim 31**, in addition to features recited in base claim 30 (see rationales discussed above), Chen also discloses wherein, in the at least one designated frame, a mutually exclusive second portion L-D of the L bits of the index are available to the decoder to search the codebook (*the remaining "6-bit shape codebook index" use for search a codebook at the decoder end is discussed at col. 24, lines 11-13 and thereinafter. Note: This is inherently true for the decoder side*).

Regarding **claim 35**, in addition to features recited in base claim 30 (see rationales discussed above), Chen also disclose wherein the designated frames are not consecutive (*col. 24, lines 15-30 and thereinafter*).

Regarding **claim 36**, in addition to features recited in base claim 30 (see rationales discussed above), Chen also discloses wherein the receiver is disposed within a mobile station (*see col. 1, line 7 and thereinafter*).

Allowable Subject Matter

5. Claims 3-13, 19-27 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record, considered individually or in combination, fails to fairly show or suggest the claimed inventions of base claims 1, 17 and 30 and further limit with novel and unobvious limitation of "wherein the designated codeword is a start codeword, and the at least one designated frame is subsequent to the first frame," commonly recited in the dependent claims 3-12 and 19-26, that is structurally and functionally interconnected with other limitations in a manner as recited.

The prior art of record, considered individually or in combination, fails to fairly show or suggest the claimed inventions of base claims 1, 17 and 30 and further limit with novel and unobvious limitation of "in at least one frame that is not a designated frame, using all of the L bits to uniquely select a codeword from among all codewords in the codebook except designated codewords that identify one of a start and stop of a stream of in-band data," commonly recited in the dependent claims 13, 27 and 34, that is structurally and functionally interconnected with other limitations in a manner as recited.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Paksoy et al, An Adaptive Multi-Rate Speech Coder for Digital Cellular
Telephony, IEEE, Pages 193-196, 1999.

8. Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Frank Duong whose telephone number is 571-272-
3164. The examiner can normally be reached on 7:00AM-3:30PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Lynn D. Feild can be reached on 571-272-2092. The fax phone number for
the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the
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USPTO Customer Service Representative or access to the automated information
system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FRANK DUONG
PRIMARY EXAMINER

July 15, 2207